Distributed by:

JAMECO® ELECTRONICS

www.Jameco.com ✦ 1-800-831-4242

The content and copyrights of the attached material are the property of its owner.

Jameco Part Number 38324

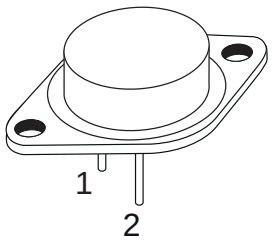
2N3771
2N3772

HIGH POWER NPN SILICON TRANSISTOR

- STMicroelectronics PREFERRED SALESTYPES

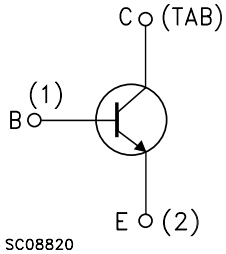
DESCRIPTION

The 2N3771, 2N3772 are silicon epitaxial-base NPN transistors mounted in Jedec Jedec TO-3 metal case. They are intended for linear amplifiers and inductive switching applications.



TO-3

INTERNAL SCHEMATIC DIAGRAM



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		2N3771	2N3772	
V_{CEO}	Collector-Emitter Voltage (I_E = 0)	40	60	V
V_{CEV}	Collector-Emitter Voltage (V_{BE} = -1.5V)	50	80	V
V_{CBO}	Collector-Base Voltage (I_B = 0)	50	100	V
V_{EBO}	Emitter-Base Voltage (I_C = 0)	5	7	V
I_C	Collector Current	30	20	A
I_{CM}	Collector Peak Current	30	30	A
I_B	Base Current	7.5	5	A
I_{BM}	Base Peak Current	15	15	A
P_{tot}	Total Dissipation at $T_c \leq 25\ ^oC$	150		W
T_{stg}	Storage Temperature	-65 to 200		^oC

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	1.17	$^oC/W$

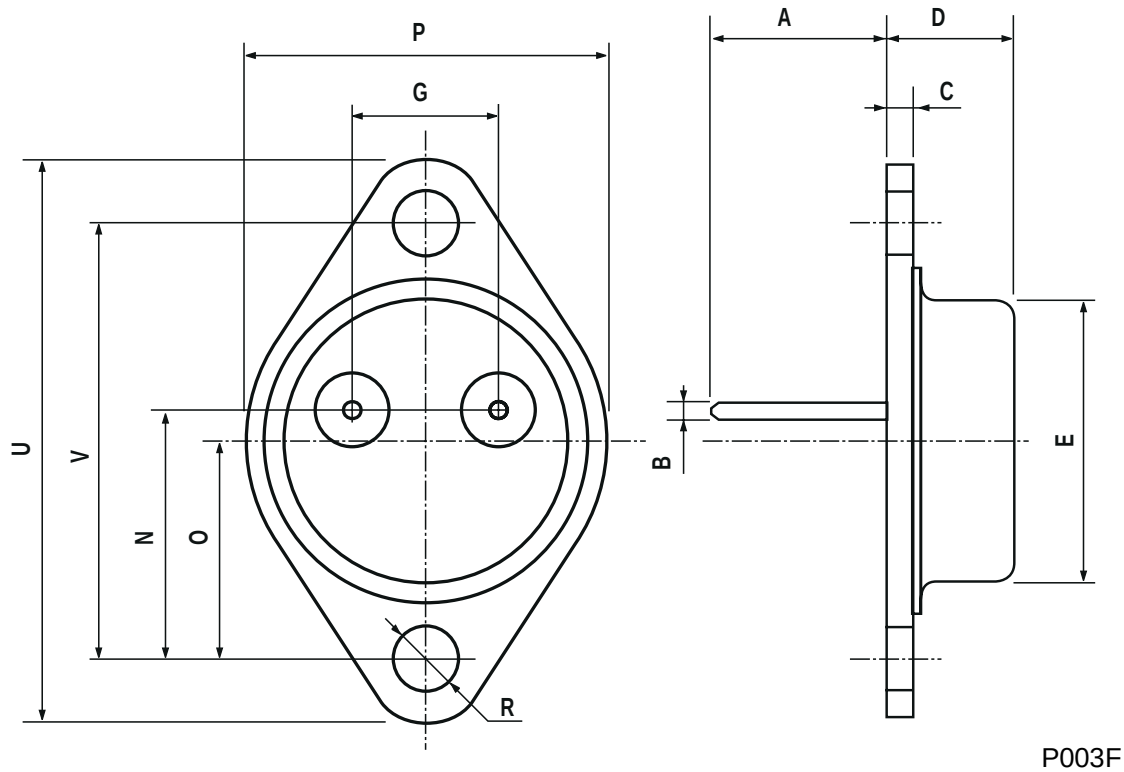
ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CEV}	Collector Cut-off Current (V_{BE} = -1.5V)	for **2N3771** V_{CB} = 50 V for **2N3772** V_{CB} = 100 V for all V_{CB} = 30 V T_j = 150 ^oC			2 5 10	mA mA mA
I_{CEO}	Collector Cut-off Current (I_B = 0)	for **2N3771** V_{CB} = 30 V for **2N3772** V_{CB} = 50 V			10 10	mA mA
I_{CBO}	Collector Cut-off Current (I_E = 0)	for **2N3771** V_{CB} = 50 V for **2N3772** V_{CB} = 100 V			4 5	mA mA
I_{EBO}	Emitter Cut-off Current (I_C = 0)	for **2N3771** V_{CB} = 5 V for **2N3772** V_{CB} = 7 V			5 5	mA mA
$V_{CEO(sus)}$*	Collector-Emitter Sustaining Voltage (I_B = 0)	I_C = 0.2 A for **2N3771** for **2N3772**	 40 60			 V V
$V_{CEV(sus)}$*	Collector-Emitter Sustaining Voltage (V_{EB} = -1.5V)	I_C = 0.2 A R_{BE} = 100 Ω for **2N3771** for **2N3772**	 50 80			 V V
$V_{CER(sus)}$*	Collector-Emitter Sustaining Voltage (R_{BE} = 100 Ω)	I_C = 0.2 A for **2N3771** for **2N3772**	 45 70			 V V
$V_{CE(sat)}$*	Collector-Emitter Saturation Voltage	for **2N3771** I_C = 15 A I_B = 1.5 A I_C = 30 A I_B = 6 A for **2N3772** I_C = 10 A I_B = 1 A I_C = 20 A I_B = 4 A			 2 4 1.4 4	 V V V V
V_{BE}*	Base-Emitter Voltage	for **2N3771** I_C = 15 A V_{CE} = 4 V for **2N3772** I_C = 10 A V_{CE} = 4 A			 2.7 2.7	 V V
h_{FE}*	DC Current Gain	for **2N3771** I_C = 15 A V_{CE} = 4 V I_C = 30 A V_{CE} = 4 V for **2N3772** I_C = 10 A V_{CE} = 4 V I_C = 20 A V_{CE} = 4 V	 15 5 15 5		 60 60	
h_{FE}	Small Signal Current Gain	I_C = 1 A V_{CE} = 4 V f = 1 KHz	40			
f_T	Transition frequency	I_C = 1 A V_{CE} = 4 V f = 50 KHz	0.2			MHz
$I_{s/b}$	Second Breakdown Collector Current	V_{CE} = 25 V t = 1 s (non repetitive)	6			A

∗ Pulsed: Pulse duration = 300 µs, duty cycle ≤ 2 %

TO-3 MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	11.00		13.10	0.433		0.516
B	0.97		1.15	0.038		0.045
C	1.50		1.65	0.059		0.065
D	8.32		8.92	0.327		0.351
E	19.00		20.00	0.748		0.787
G	10.70		11.10	0.421		0.437
N	16.50		17.20	0.649		0.677
P	25.00		26.00	0.984		1.023
R	4.00		4.09	0.157		0.161
U	38.50		39.30	1.515		1.547
V	30.00		30.30	1.187		1.193



P003F

Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics

© 2000 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - China - Finland - France - Germany - Hong Kong - India - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - U.S.A.

http://www.st.com